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THE AMERICAN JOURNAL OF PHOTOGRAPHY

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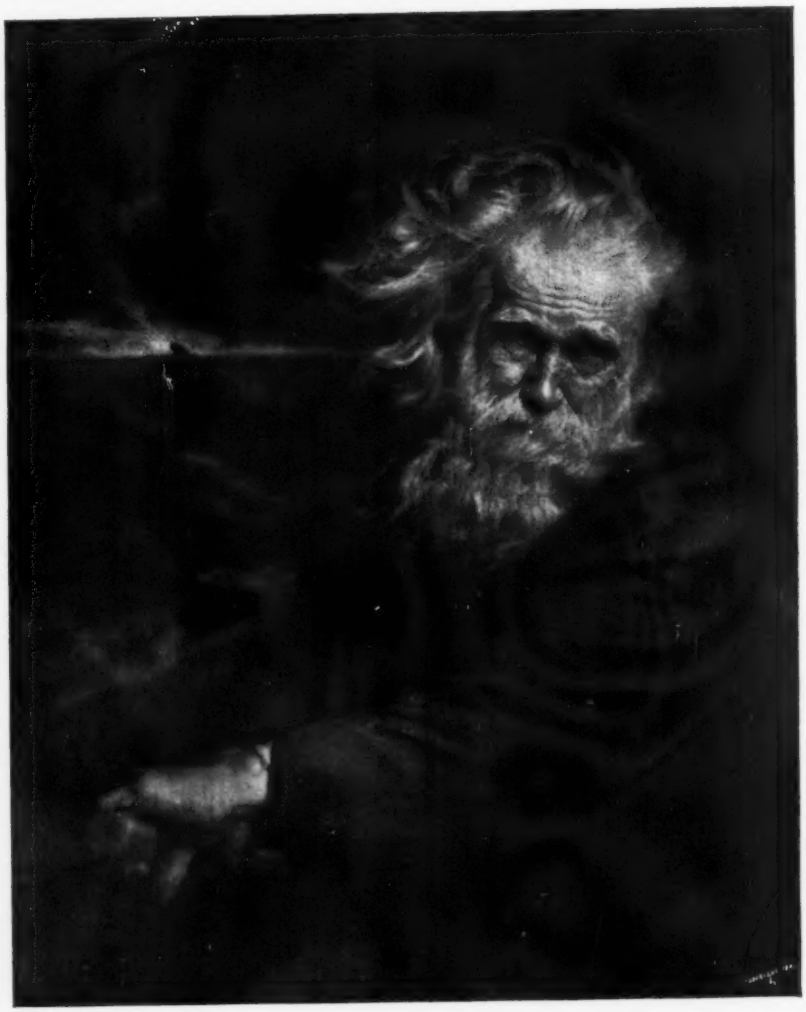

Nearing the Haven. — *By Geo. W. Van Norman.*

"To death I with such joy resort,
As seamen from a tempest to their port.
Yet to that port ourselves we must not force
Before our pilot Nature steers our course."
— *Sir H. Benham.*

PHOTO ERA

Frontispiece for November, 1901.

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PHOTO ERA

THE AMERICAN JOURNAL OF PHOTOGRAPHY

VOL. VII. NOVEMBER, 1901 No. 5

The Rule or Ruin School of Photography

OSBORNE I. YELLOTT

WHEN this issue of the PHOTO ERA reaches its readers, the fourth Philadelphia Salon will be almost ready to be thrown open to the public. Whether it shall be the last photographic exhibition to be held under the joint auspices of the Pennsylvania Academy of the Fine Arts and the Photographic Society of Philadelphia, or the first in what many of us hope is a new era in pictorial photography in America, will depend somewhat upon the character of the exhibit as a whole and more upon the sincerity of purpose on the part of those having it in charge.

It would be but idle to indulge in either the hope or the supposition that this fourth Philadelphia Salon will be the equal pictorially of either the second or third. But where, as I took occasion to point out in these columns about a year ago, the characteristic work of the last Salon was the product of an embryotic school of decadence, servile imitation and plagiarism, this year we have reason to believe the exhibition will contain evidences of the existence of the true American school of photography, evidences not so rich in fruition, possibly, but infinitely rich in promise. This American school, as I have heretofore suggested, will be truly American, a school of new ideas, as opposed to the decadence of the old ; of truly American independence, as opposed to the imitative character of the old, and of boundless originality as opposed to the plagiaristic tendencies of that school of which we have heard so little in the past year. It will not be the product of a day or of a year, — if properly nurtured and given the slightest encouragement it will the more quickly develop into its perfect maturity, — if not nurtured and not encouraged, it must still inevitably, if more slowly, reach that same maturity. It lies with the management of the Philadelphia Salon very largely to determine its immediate future.

* * * * * *

When, something over a year ago, a few of us who were truly interested in the future of artistic photography in America, took it upon ourselves to call attention to certain very ludicrous features in the press-agents' department of the old school, which then called itself the new school, the hue-and-cry was taken up by the multitude, and the aforementioned old school was literally driven off the face of the earth.

They took to the sea, and, I have since learned, have landed with a full cargo of frames at the Salon and Royal exhibitions in London.

This was by no means a consummation devoutly to be wished.

We, with the Department of State and our fellow citizens generally, delight in the friendly relations which

exist between our transatlantic cousins and ourselves, and we had no desire to disturb those relations.

But in addition to this, some of us honestly believed that notwithstanding the all-embracing and hence generally discredited claims of the members of that school, some of their work had in it much that was good and instructive. Which of us, for instance, who saw the "Unfinished Study" of Mr. Stieglitz, No. 169, at Philadelphia last year, has not yearned to see it in its finished state after the lapse of a year? Or who among those who saw Mr. Keiley's "American Type," No. 112, has not been eager to see the transformation which would ensue after re-development with glycering and local applications of mercury? And then again, how can we bear to part with those charming models with whom we have become so familiar through the work of Clarence White? It was a positive revelation to us who were uncultured to see these two models and a statuette in half a dozen different poses and aspects year after year with never a hint of repetition. We were on the tip-top of expectancy to see what they would be doing this year.

But sad as it may seem, we are to be disappointed.

Those who saw the Chicago Salon of 1901 have already been disappointed.

The once self-honored "New School" has now become the "Rule or Ruin school of American photography."

For the first time in the history of American photographic salons they were this year ignored in making up the juries of selection, and they have determined upon the method of their revenge.

Reviled, persecuted and "misunderstood," feeling that a prophet is never without honor save in his own country, the fiat has gone forth from them, notwithstanding federal statutes on the subject, that all American Salons are to be boycotted.

We who have wandered along the beach at Katwyk with Alfred the Great, must now mope along by ourselves at Manhattan or at prosaic Atlantic or Cape May.

We who have strolled among the gloomy groves or meandered far afield, or sat in solitary confinement with the Newark models, must now seek other company.

They have gone abroad.

We who have invested many hard-earned dollars in brushes, blotters and glycerine receptacles, must now let moth and rust corrupt them, for the Great Discoverer is no longer with us. He has opened a school of foreign correspondence and is now teaching Hofmeister Bros. of Hamburg how to develop circus posters with a white-wash brush.

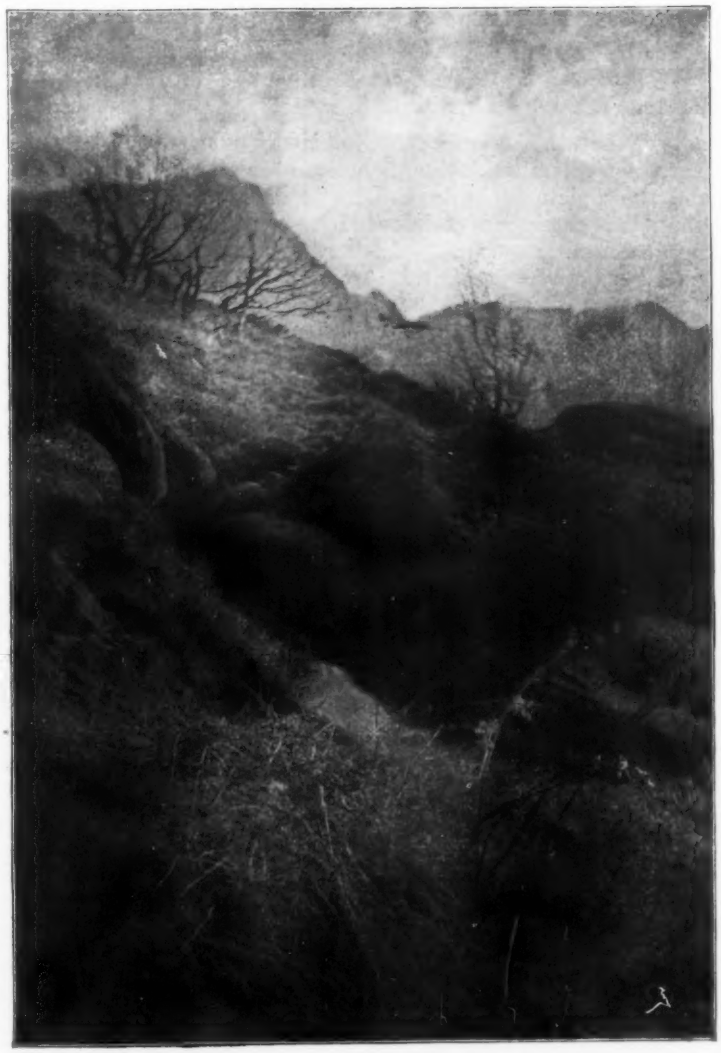
It has been hinted that these advanced and expatriated amateurs are afraid to submit their pictures to the judgment of juries composed of trained artists and practical photographers, but I cannot believe such to be the case.

In the first place, where is the American painter or sculptor who does not consider these advanced and highly artistic amateurs his equals, or who would dare to oppose his judgment of the artistic to that of these amateurs who have studied photography for five, ten or twenty years and art for two, three or even four years?

With what great artist of the country are not the names of Stieglitz, Keiley, White and Kasebier household words?

And who know this better than these amateurs themselves?

No, such a charge is but a thoughtless injustice. These advanced and expatriated amateurs have simply concluded that while they have always heretofore hung ten pictures each at the Philadelphia Salons, they



SAND DUNES. By H. B. Fullerton.

nave had their feelings hurt by people who did not understand their art, and they are not going to hang their ten any more.

They know their pictures are good because they made them themselves, with a few exceptions, and they judged them themselves, and because they always have been hung at Philadelphia.

They know that the entire populace of Philadelphia will clamor at the door of the Salon committee's room, and demand their pictures, or in default of that, the catalogue of last year's Chicago Salon.

They know perfectly well that this demand on the part of a united and outraged public will force the management to concede their unspoken demand, and enable them in future years as in the past to judge that they be not judged.

We were assured in past years that it was sincerity of purpose and not the desire for personal aggrandizement which actuated those whose frames are missing from this year's exhibition. These missing exhibitors were then judged by their words. They must now be judged by their deeds.

* * * * * *

I stated in opening that it will depend largely upon the sincerity of purpose on the part of those having the management of the Philadelphia exhibition in charge whether the fourth Philadelphia Salon is to mark the dawn of a new era in American photography.

For the good of photography as one of the fine arts, let us trust that the management will see beyond trifling disappointments which must inevitably ensue as the result of any new departure, and look to the future for that vindication of a courageous course which must in the end have its just reward. The photographers of America to whom we look for the bone and sinew of the true American school of photography are as yet largely undiscovered. Every exhibition under the old regime, where imitation and servility were required, resulted in the discouragement of many who might long since have come to the front. A single exhibition with a non-partisan jury composed of trained artists and photographers of ability will result in the discovery of others to take the place of those who were so discouraged. Successive exhibitions along the same lines will bring about that gradual and natural development, that survival of the fittest which is Nature's greatest law, and which has never been demonstrated more clearly in any phase of Nature than in Art.

ALT NURNBERG ON THE MIDWAY— Pan American. Taken with Eastman Panoram Kodak.

The Chemistry of Fixing

FRANK R. FRAPRIE

WHEN a plate of glass or film of celluloid or sheet of paper which has been coated with an emulsion of silver bromide and gelatine is exposed to the action of light, as in a camera or printing frame, and then subjected to the action of certain chemical solutions, usually known as the developing bath, the bromide is partly reduced to metallic silver by the developer, forming the image which is desired. It now becomes necessary to remove the unreduced silver bromide from the gelatine, in order to have a permanent result. Several substances are known which have the property of dissolving silver bromide; the most important are ammonia, potassium cyanide and sodium thiosulphate. The use of ammonia strong enough to quickly dissolve silver bromide is impracticable, because it would attack the gelatine and destroy the film. Potassium cyanide is one of the most deadly poisons known to chemistry, and it is very seldom used in the dry plate process, although it is an ordinary fixing salt for wet plates and ferrotypes. It is rather expensive, also, another reason for not using it. The third solvent, sodium thiosulphate, ordinarily known as hyposulphite of soda or hypo, is then the salt ordinarily resorted to for fixing purposes. The use of "hypo" as a fixing agent was proposed by Herschel soon after the discovery of photography, but as the price at the time was about forty dollars an ounce,

AT THE DOCKS. By HARRY WANLESS.

and the salt was known only as a chemical curiosity, the suggestion did not seem very valuable. The demand, however, soon caused chemists to reduce the cost of manufacture by improved processes, and the price rapidly fell to reasonable bounds and now is only about two cents a pound at wholesale.

The action of hypo on silver bromide or chloride is a complex one. In the first place the solution dissolves the unchanged bromide, at the same time destroying its color, and forms a transparent double salt which remains in the film, substantially according to the following reaction:

$$\underset{\text{hypo}}{Na_2S_2O_3} + 2\,AgBr = \underset{\text{insoluble double salt}}{Na_2S_2O_3,Ag_2S_2O_3} + \underset{\text{sodium bromide}}{2\,NaBr}$$

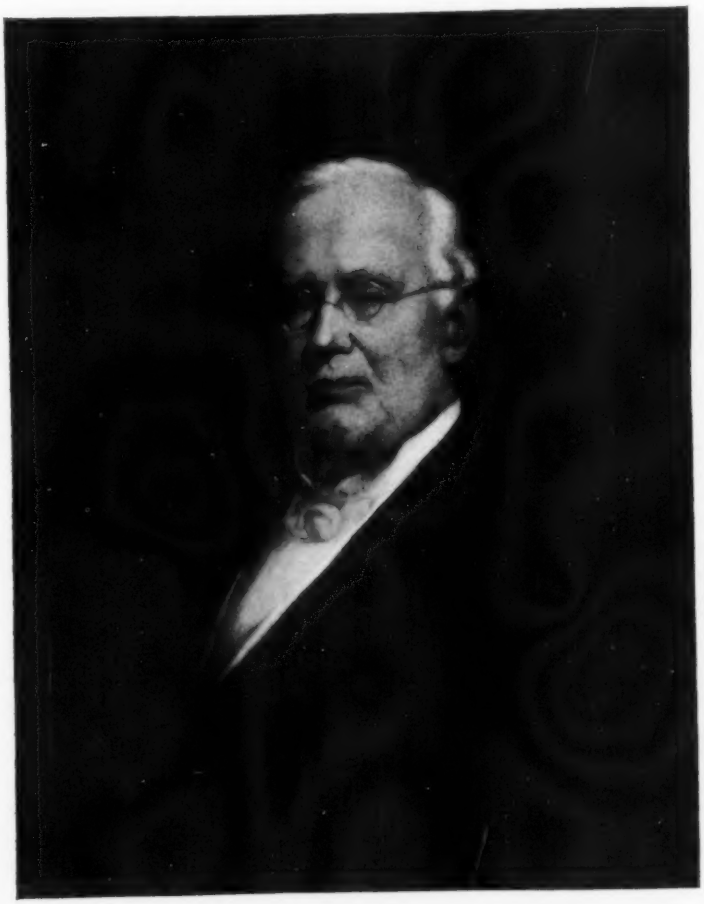
(AgBr: silver bromide)

This double salt is insoluble in water, and if the plate be taken from the fixing bath immediately after the yellow color is gone from the film the negatives will retain the silver-hypo salt. The negative is then sure to perish in course of time, for this salt, like all other silver salts, is sensitive to light, and sets free sulphur and unstable sulphur compounds, which attack and destroy the image, and usually turn the film yellow in patches.

If, instead of removing the plate from the hypo as soon as the visible bromide has disappeared, we allow it to remain in the hypo bath, or what is very much better, remove it to a fresh hypo solution of the same strength, the insoluble double salt is converted into a soluble salt $2Na_2S_2O_3,Ag_2S_2O_3$. This salt is not formed completely in a weak solution of hypo and it is possible that herein lies a partial explanation of the fading of gelatine prints, which are necessarily fixed in a weak hypo solution, as a strong one would bleach the image. This double salt is easily and quickly soluble in cold water and will be completely removed from the film by from thirty to sixty minutes washing in moderately pure water. The use of very hard water in washing plates is not desirable as the chemical constituents may induce obscure reactions in the film, or prevent the solution of the silver-hypo double salt.

From these considerations it is plain that the problem of washing plates is simply the problem of complete fixing, and that complete fixing can be assured by a long immersion in the hypo. This can hardly be excessive. Plates of ordinary density may be left in hypo all night without injury, and an immersion of sixty hours without any damage has recently been recorded. Since however, very prolonged action of the hypo has a slight reducing effect, it would be better not to leave excessively thin plates fixing for more than an hour or two. As a minimum, the plates should receive fifteen minutes fixing, and double-coated plates considerably longer. This may be all in one dish, or better, the plates may be put in fresh hypo as soon as the visible bromide has disappeared. The best position for fixing is the vertical, since then the more saturated particles of the solution issuing from the film, being heavier than the rest, sink to the bottom and do not impede further action, while in the horizontal position, the dense solution lies directly on the film and greatly retards the access of fresh particles.

All the chemical statements above refer to the action of a plain solution of hypo in water in the proportion of one to three or four. The facts are definitely established and the reactions run as written, without any decomposition of the hypo, provided that the developer is removed by two or three minutes soaking in fresh water before fixing. When we come to consider the action of the acid fixing bath, we find an entirely differ-



Photograph from Willard's oil painting of
SENATOR HOAR. By Herman Scherver.

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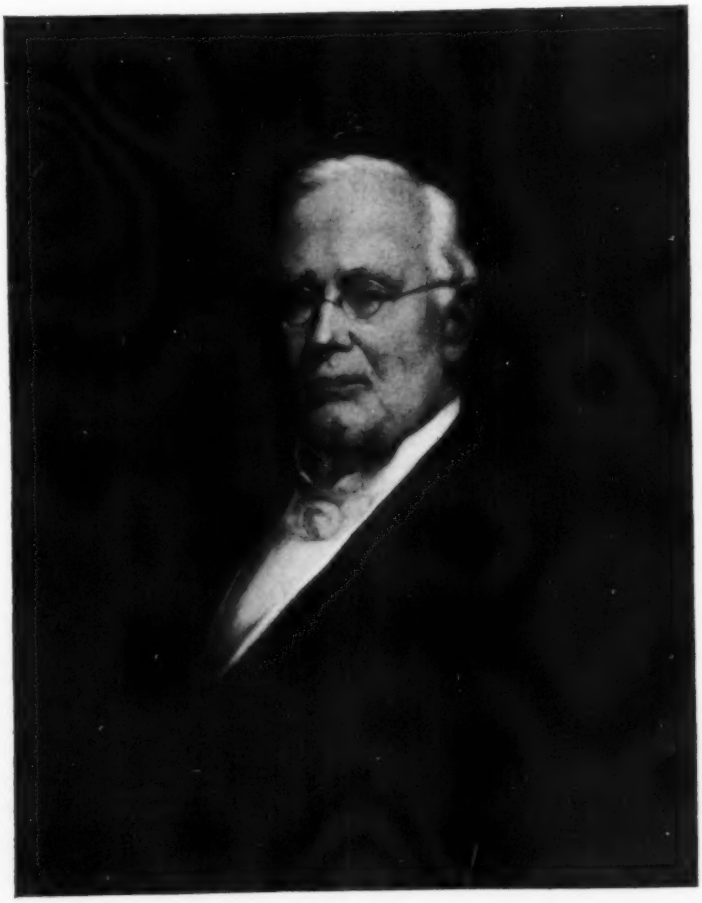


Photograph from Willard's oil painting of
SENATOR HOAR. By HERMAN SCHERVER.

ent state of affairs. The acid bath is usually made by the addition of acetic, citric or tartaric acid, sodium sulphite, chrome or ordinary alum, one or more, to the hypo solution. The chemical effect is not the same in every case, but the result may be generalized as follows:

The addition of any acid substance to a solution of hypo causes a more or less rapid decomposition of the solution, either with the formation of unstable, higher compounds of sulphur which affect very injuriously the stability of the negative, or the separation of free sulphur or both.

The action of a strong mineral acid on hypo is immediate decomposition, as follows:

$$\underset{\text{hypo}}{Na_2S_2O_3} + \underset{\text{sulphite}}{H_2SO_4} =$$

$$\underset{\text{sodium sulphate}}{Na_2SO_4} + \underset{\text{sulphurous acid}}{SO_2} + \underset{\text{sulphur}}{S} + \underset{\text{water}}{H_2O}$$

The sulphur is deposited in a very finely divided condition and in a negative easily attacks the silver.

The action of a weak acid is, according to recent researches, very complex.

The hypo is transformed into compounds of the polythionic acids, especially the trithionate and the tetrathionate. These substances in contact with the silver salts, form silver tri and tetrathionates which are not removed from the plate by washing, and are extremely unstable in the presence of light and air, especially moist air. The decomposition products, particularly molecular sulphur, attack the finely divided silver of the image, and eventual destruction of the negative is the result.

Chrome and ordinary alum, although not acid salts in the ordinary sense of the word, have a great tendency to form basic salts, with the evolution of free acid, which decomposes the hypo. The acid set free in this case is sulphuric, and free sulphur may be observed in the liquid soon after it is mixed. This particular acid bath is one of the worst that can be compounded. If there is any choice of evils, an acid bath compounded with acetic acid is as good as any that can be made, as the decomposing action here is slower than in the case of a mineral acid or alum. It takes place finally, so that the use of this bath cannot be recommended.

The advantages claimed for the acid bath are three; that it lasts longer, that it hardens the film, and that it clears the plate better. The clearing of the plate seems to be due to a slight reducing action of the bath on the surface fog which is almost always present in plates developed or loaded in the light. This may be due to reduction, but is probably caused by a slight solution of the gelatine on the surface of the plate removing at the same time the surface fog. This fog has practically no effect on the printing qualities of the plate, so that its removal has no particular advantages, except that it makes the negatives prettier to look at. The acid bath may last longer than the plain hypo, but hypo is so cheap that it is much better to use a fresh bath for every batch of plates. An ounce, costing half a cent, will fix a dozen plates, and the cost cannot be said to be excessive. The hardening of the film is also sufficiently accomplished by the use of fresh hypo, except in very hot weather or in tropical climates, or in the use of very cheap plates coated with inferior gelatine. In these cases it is much better to harden the plates in a separate bath which will not decompose the hypo. The best bath is a five per cent solution of formalin, which is sold also under the names of formaldehyde and formol. The commercial solution is to be added to twenty times its volume of water, and the plate taken from the hypo and immersed directly in it. After five

minutes it will be so hardened that it may after washing be dried directly over a gas flame, or on top of a hot stove without melting. The hardened gelatine resists the action of the wash water to such an extent that it is necessary to wash the plate three or four times as long as usual.

PORTRAIT OF CHILD. By Saunders and Mueller.

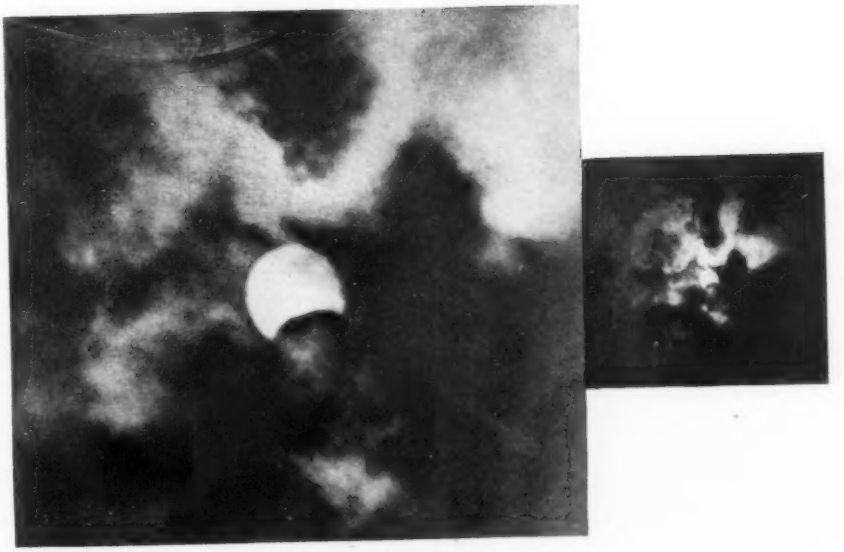
Celestial Photography

THE accompanying photographs of the eclipse of the sun, last year, were made by Mr. C. J. Sawyer, of Grand Rapids, Michigan. The negatives were made with an ordinary camera, on Seed's non-halation plates that were five or six years old. The shutter was stopped down to f.16, the exposure was one twenty-fifth of a second and he used a ray filter of his own make. The prints are made on Carbon Velox from original negatives, while the enlargements, as shown in the illustration, are on Special Portrait Velox made in the camera from the same negatives. Thus, it would seem that celestial photography is a simple task, yet, according to Prof. Hale, the trials incident to using the big Yerkes' 40 inch telescope at Williams Bay, Wis., are somewhat appalling. The difficulties arise from the fact that this great telescope is made for visual use, utilizing the yellow and green rays of light, which are of the least use in photography.

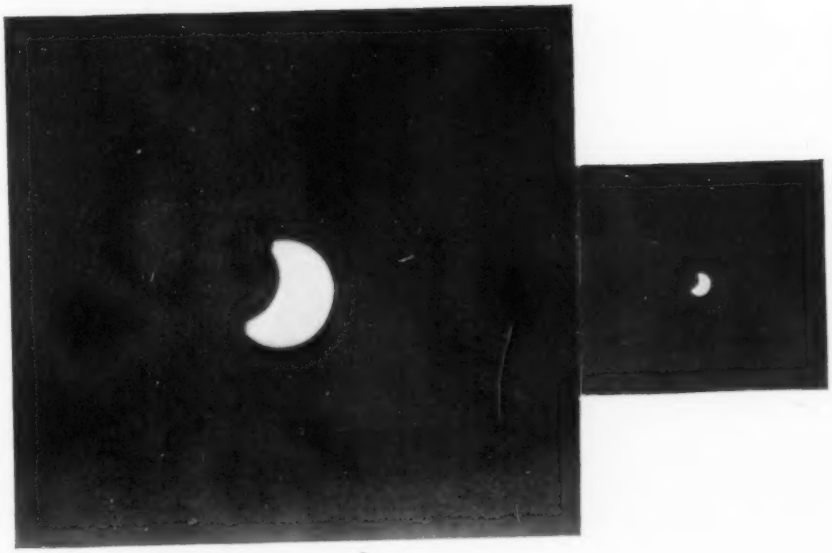
The technical trials in using a large visual lens are avoided in the Lick observatory by using a third lens. Mr. Ritchie of the Yerkes institution makes use of a yellow glass screen immediately in front of the photographic plate. This plan is made feasible by also using isochromatic plates.

With the machine ready for working, there is yet a kind of work that would appall the outsider before a satisfactory plate can be obtained. The arrangement of the big instrument, sixty-four feet long, the lens and its cell alone weighing 1,000 pounds, requires a new determination of its focal length every night. The particular object to be photographed must be kept on the exact spot it occupied from the first for two or three hours, despite the irregularities in the movements of the great mechanism and the continual irregularities in the movements of the atmosphere, which are much magnified by the big lens. It is necessary for the operator to keep some small body near the object to be pictured continually on the intersection of cross hairs in the focus of a "finder."

Star clusters of extremely minute size, that could be resolved by no other instrument, are pictured by the Yerkes as clusters of distinct stars without a central blotch. Part of the moon showed the result strikingly. In spectroscopic work, there have been done some real feats in photographic research into the questions of motion in the line of sight, and the question of the age of stars based on the character of their spectra. But the most striking results are in the photography of the sun by monochromatic light, by the use of a single wave-length of the many hundred constituents in the sun's light, giving daily photographs of faculae on the surface of the sun, and of the prominences at frequent intervals, enabling the observer to measure the rate of movements in the sun's atmosphere.



ECLIPSE OF THE SUN. By C. J. Sawyer.



A BIT OF RHODE ISLAND COAST. By Arthur W. Howe. First Award — Providence Camera Club.

Photography for Profit

J. R. SCHMIDT

I DO not claim that my experience as an amateur photographer differs greatly from that of hundreds of my brother amateurs, but I have noticed that at least two-thirds of all who have ever been stricken with this fascinating hobby either flourish for a while and then suddenly drop out or continue along a seemingly mysterious path which leads to everlasting pleasure and profit. To these I can say nothing, but to the others I address myself, confident that in so doing I shall address the vast army of button-pressers whose continual and everlasting cry is that photography is an expensive pastime.

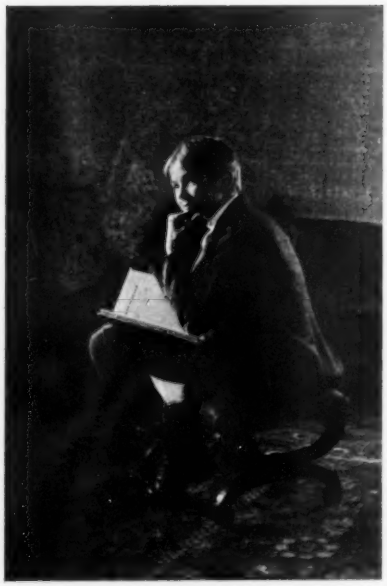
Assuming it is expensive, many will positively declare and show proof of its being an indisputable fact. In their earnest endeavor to reduce this "awful" expense we find they reduce the size of the camera, because "small plates, films and paper cost less than large ones." Nearly all use a 4 x 5 camera or smaller. Poor things, that's just where they make their mistake. No one wants to pay a good price for a small photograph. Newspapers and magazines, a most profitable field for the amateur photographer, will only accept something extraordinary when of such a small size and then the price is correspondingly low because these small pictures will not "stand up" in the etching process and the half-tones only too often prove to be nothing better than a blurred mass. The few pictures that are accepted nearly all pass through an artist's hands, who "doctors them up," and as a competent artist is an expensive addition to a publication, editors as a rule do not overburden them with touching up photographs. A valuable field to the amateur photographer is thus almost entirely blocked by the use of a small camera. The sale of prints to the casual buyer does not as a rule amount to one out of perhaps a dozen negatives and of course frequent trips to the stock-houses for supplies make the thing expensive.

Among the thousands of amateurs making pictures 4 x 5 or less in size, one half, possibly more, use films. "The films that made amateur photography possible for thousands." Yes, and expensive for the thousands as well. It's so easy to press the button, turn the key and let the others do the rest. Films make camera construction so compact and so light the only thing a prospective buyer sees in his selection of a camera, but alas he will eventually know better, or he will rise, flourish for a while and then pass into oblivion because he finds picture-making too expensive, nevertheless the camera sale goes on and two come in for every one who drops out. Films 4 x 5 size cost more than the very best 5 x 7 plates, a good 5 x 7 plate camera costs no more than a 4 x 5 film camera, not saying a word about results with films. With a plate camera there is no forced guess work, at all times we can see what we are about and results are most certain.

After a little serious thought it will be seen that to make photography pay at least the cost of materials, which I presume we are all willing to have done, a camera not less than 5 x 7 size or better still a 6 1-2 x 8 1-2 is essential. Three years of successful photography for newspapers and the press in general taught me the larger size, though most expensive to operate, (some times on a dozen a day rate) brings best returns. An editor

has no time to take an enlarging glass to see what is on a print. The larger and the more simple the subject the better he will like it and the more successful you will be in selling him your work. Then as a rule every engraver when given his way has an unconquerable desire to reduce a photograph, which enables him to make a better half-tone, therefore not once in a dozen times will he enlarge it. These points are worth considering when we want to please those who are willing to pay for what they want. This is only a branch of a vast field which will make photography inexpensive for the amateur.

Another method of reducing expenses, for those who like to take a day's stroll with the camera and gather up bits of nature. Select half a dozen prints or so some evening when you have nothing to do, weave a nice little story about them, then send on to some journal or newspaper which publishes "feature" work and maybe you will be rewarded with a nice little check. In case you do not sometimes you will get your manuscript back with a little printed slip enclosed which the editors have handy to save time in writing your fate as well as that of others, bearing words something like this: "The Editor regrets to say that your MS has been found unavailable. This does not mean for the lack of merit," etc. In rare cases the editor may scratch a few words in addition such as "I should say not!" or "If at first you don't succeed." Sometimes it is more encouraging and with the letter of acceptance comes a request to "Send some more in that same vein" or "Get us some pictures of such and such a class."



PORTRAIT. By Herbert A. Hess.

Good pictures of important events, pictures that tell a story, are always salable, but then there is quite a knack in knowing what to take and what not to take, what will please the "masses" and not ourselves alone. We must learn the difference between "must" matter and that which is consigned to the waste basket. Then and not until then, instead of finding our hobby "expensive," it will be of great pleasure and profit to us. There may be other fields just as remunerative for our work, but I for one have found this one big enough for any amateur who can not make expenses.

A NOVEMBER EVENING. By SARA W. HOLM.

Vignetting with a Brush

HENRY J. ROWLAND

MY method of vignetting photographs is as follows. The paper used is carbon Velox which always responds satisfactorily to a good negative. Some good negatives will not vignette well with a brush on glossy Velox, for some reason as yet unknown to me. When printing mark on the back of the paper with pencil the position of the head of the figure you wish to picture. After printing wet the paper, place it in the bottom of a clean glass tray or upon a clean piece of glass, drain off all surplus water. Then charge a camel-hair brush generously with developer, but not enough to run and cause the developer to streak across the picture. Commence by brushing the head and face with developer, following with such other details as you may wish to appear. When development is complete, plunge tray and picture into water, then fix and wash as usual. The brush and glass tray

A PESSIMISTIC PHARISEE. By H. J. ROWLAND.

should be thoroughly rinsed after each development. The brush used by me for a 5 x 7 picture is known to water-color artists as "a camel's-hair brush in split quills, pointed top." It is in six quills. That is, the split quills form the handle. The hair is one and one-half inches long by one inch thick. They can be procured at any house dealing in artists, supplies and cost about fifty or sixty cents. Any other brush of similar character answers the purpose. Remember that it is the developer that brings the picture to view. Use the brush only to apply the developer. Do not churn up the surface of the paper with the brush. The best vignettes are made in cold, dry weather in a room warmed with dry heat.

If it is desired to select any portion of a negative, say a single figure, and print it in the centre or middle position of the paper, place the centre of the paper over the part of the negative to be pictured. Cover the back of the paper with a piece of glass and fasten with spring clothes pins. The glass must be of same size as negative, thereby making a sort of printing frame. The regular printing frame of course cannot be used in such a case. Print and develop as before described.

The tools or implements used in making the above mentioned photographs, were a Premo Sr. 5 x 7, with a Zeiss-Anastigmat lens, Series II A. The lighting is generally with an Eastman flash sheet, pinned to a piece of white pasteboard suspended upon a string stretched across the room in such a manner as to make the flash sheet about nine or ten feet from the subject and about seven or eight feet from the floor. When posing oneself and having no assistance, first place a lighted candle in the place where you are to stand, surrounded by such accessories as are desired; focus the flame sharply. Have the room lighted with a single candle shaded, giving just enough light to see what you are about. Extinguish all other light. Open the camera, set off the flash sheet with a fuse made of two sheets of toilet paper twisted into shape and pinned into place alongside of the flash sheet. Be careful not to place the fuse underneath the flash sheet as it would burn too quickly and set off the flash prematurely before you could take your position. See to it that it is horizontally at a right angle to the left or right side of the flash sheet. The fuse must be at least the length of the two sheets of toilet paper. Open the camera and take your position immediately after lighting the paper fuse with a match. The fuse will not go out, yet burns slowly enough to allow you to take your position. As soon as the flash sheet goes off close the camera again. Never arrange the flash sheet on the side of the card board nearest the camera. Otherwise it may blow a piece of the paper across the face of the lens, thereby showing in the picture. In all my flash sheet pictures I use the stop f. 8. Be careful to close the eyes when cutting with scissors a flash sheet or thrusting a pin through it. They have been known to go off under such circumstances. The original shown in ilustration was taken in my library, a room 17 x 13 feet, papered with plain buff felt paper, the ceiling with white paper. The walls of this room are covered with low book cases and framed and glazed engravings. The latter probably act in a measure as reflectors. In conclusion I would say that the plates used were Cramer's Instantaneous Isochromatic. The developer was sometimes Cramer's Metol and Hydrochinon formula and sometimes Gennert's Glycin-Metol formula, the latter carefully made up by myself with a hydrometer and calcined chemicals.

To summarize all that has gone be-

fore, I always focus the space to appear in the picture first and having everything arranged I then station the subject in position. I then extinguish all light except the candle before mentioned. I next light the flash sheet and close the shutter immediately after the flash sheet is consumed. In short I compose and make up the picture first, never placing the subject in position, unless for trial effects, until just about to take the picture. If the background is light I get the centre, height, etc., with pieces of black paper pinned to the background, if dark, I use pieces of white paper, of course removing them in order that they may not appear in the photograph I then proceed to get my picture.

Photographed by W. J. Topley, Ottawa, Can.. with Plastigmat F 6.8.

PLASTIGMAT CONTEST PICTURE.

Practical Chemistry

ADDRESS BY MILTON B. PUNNETT

Before the Photographers' Association of America, Detroit.

LADIES AND GENTLEMEN:—

A calm consideration of the extent of the subject upon which I was to address you showed me the absurdity of trying to produce within the space of one brief address anything which would do justice to the subject and yet prove acceptable. I have therefore tried to produce something somewhat along the original lines intended, but which I hope and think will be more instructive and interesting.

THE PLATE.

The photographer may justly consider the dry plate as the beginning of all photo-chemical manipulations.

The dry plate of to-day is glass, which is a transparent chemically inert substance, coated with a film of gelatine containing varying proportions of silver bromide and silver iodide. The silver bromide may be considered the chief constituent. The gelatin, which is a species of refined glue, besides its binding qualities, acts also as a sensitizer in furthering the action of the light.

Very often one will hear the remark made that this or that plate is rich or poor in silver, and I would like to remark right here that within workable limits it is impossible to say as to the amount of silver salts in a plate without making a chemical analysis.

The density of an image obtainable on a plate is no proof of the amount of silver a plate contains, for on a plate containing twice as much silver as another, it may be possible to obtain an image of only one-half the strength. The difference is attributable to a difference in the molecular condition of the silver salts in the plate.

The action of light on a dry plate is a much disputed point among chemists. Some claim that it causes the oxygen, which is always present, to unite with the silver salts. Others claim that it causes a partial decomposition of the silver salts, the released bromine uniting with the gelatine, leaving a silver sub-bromide which contains half as much bromine as the original silver bromide.

The action of the developer may be considered as a continuation of the light action, resulting in a reduction of the silver salts, affected by the light, to metallic silver or compounds of silver, the released bromine going into the developer.

INERTIA OF A PLATE.

The subject of the effect of light on a plate brings me to the consideration of a property of a plate not generally recognized by the present day photographers, but well known to the old wet plate workers. I refer to what is sometimes called the "inertia of a plate." The term refers to the amount of light to which a normal dry plate can be exposed before a developable impression is made. As an example; if it requires the expenditure of one hundred and one pounds of force to move a stone and one hundred pounds is applied, no visible effect is produced, but the moment the extra one pound is applied the stone would be moved. I had a practical illustration of this phenomenon in some trouble a photographer was experiencing.

The trouble consisted in the appearance of a comet shaped marking, lighter than the surounding image, on some of his negatives. The head of the comet was about the size of

the top of my little finger, otherwise the negatives were good and practically free from fog. Investigation showed that it was caused by the light passing through the plate and being reflected back from the shiny black surface of the inside back of the plate holder. Where the spring of the plate holder rested against the plate the latter was protected from the effects of surrounding parts, hence that part was not so dense.

Many of the old wet plate workers when they wished to increase the speed of their plates would give them a quick exposure to white light, thus bringing them into a condition where a much shorter exposure was necessary to produce an image.

REVERSAL OF THE IMAGE.

There is another property of the action of light on a dry plate which at first glance might be pronounced detrimental, but which in reality in many cases is very beneficial. I refer to what is termed "reversal of the image." As you all know, if a plate is exposed beyond a certain length of time, a time which varies with different plates and different conditions, the image instead of becoming denser in the high lights begins to grow thinner. Reversal of the image is beneficial in that it gives us a means of equalizing the immense difference which generally exists between the intensities of the light in the high lights and shadows of a picture.

The rule "Expose for the shadows and let the high lights take care of themselves" is founded on this property.

If the values of a negative were proportional to the amount of light which caused them, there would be such a difference between the strengths of the high lights and shadows, that it would be impossible to reproduce them on any of the printing mediums in present use.

DEVELOPMENT.

A developing solution ready to use contains chemicals which can be classified under three headings, viz.: reducers, preservatives and accelerators.

A reducer may be considered as an element or substance which acting on a compound substance will abstract from the compound substance part or all of a certain element or elements in the combination, leaving a substance containing less of the element or elements abstracted or leaving a simple element.

This definition would not pass muster in a text book of chemistry, but it will answer our purpose.

Experiment. I have here a solution of mercuric chloride, sometimes used in intensifying a negative. When I introduce this cleaned copper cent the mercury is reduced and deposited on the cent, and an equivalent amount of copper has gone into the solution as copper chloride. In this case the copper was the reducing agent.

A preservative is something that protects the reducing agent from what may be termed outside influence, allowing it to expend itself in the proper direction.

An accelerator is something that aids the reducing agent in performing its work. It is characteristic of the reducing agents used in photography that they have a great tendency to unite with oxygen. All are acquainted with the fact that pyro, metol and similar compounds soon darken and become useless if in a solution without a preservative.

Preservatives have also either an affinity for oxygen or else they protect the reducing agent by lessening its affinity for oxygen. Sodium sulphite is an example of the first class and oxalic acid of the second class.

It is a characteristic of all accelerators used in connection with organic

"There is power to bless
In woods and meadow places."

By Dr. Geo. W. Norris.

reducers that they have an alkaline reaction.

Of late years the number of organic reducing agents has so multiplied that a discussion of them and their relation to each other would be beyond the limits of this address.

Mr. Watkins who is without doubt the best informed man of the present day on this subject, says: "In a paper read before the Royal Photographic Society I described a comparison of seven developers, namely: pyro, metol, ortol, adurol, hydroquinone, kachin and glycin. All were made up with the same formula (no bromide) and compared under the same circumstances. The result may be summed up:

Effect on speed of plate, very slight and doubtful difference.
Searching out detail, no difference.
Ultimate density power, no difference.
Appearance of image, wide difference.
Speed of working, wide difference.

There is one respect in which developers differ. One class of developers (represented by metol, rodinal and weak pyro) causes all the tones to appear very early in the course of development, and density seems to follow with comparative slowness. This class has the reputation of giving thin negatives because users are deceived by the rapid appearance of image and take the plate out too soon. In the second class of developers (represented by hydroquinone (quinol), strong pyro and adurol) the lowest tones or details appear slowly and by the time they are put out the high lights have attained quite a respectable amount of density, and density is afterwards attained quite rapidly. The usual tendency with these developers is to over-develop and thus get too much contrast.

It really does not matter which developer you use if you take the plate out of it at the right stage of contrast for all (variations in bromide excepted) gave identical negatives if their action is stopped at the right moment. For general purposes it is more convenient to use a developer which is neither in the first class nor the second, but intermediate, density following the appearance of the image at a comfortable rate. It is a peculiarity of pyro that it belongs to the first or second class according to the grains of pyro to the ounce of developer."

This last remark of Mr. Watkins goes far towards explaining the popularity of pyro. Considerable of what Mr. Watkins says will be considered by photographers as rank heresy; especially will this view be taken by the man with a pet developer.

As the result of many sensitometer tests made with various developing agents for which great things are claimed, I can confirm many of his statements.

I have no intention of speaking disparagingly of the new developing compounds, for while they do not possess any advantages over pyro in the negative produced, they have helped wonderfully in the advancement of photography in other directions. I refer especially to their use in the development of lantern slides, bromide and chloride papers.

Chloride developing papers, or as they are generally called, gaslight developing papers, are like the printing-out chloride gelatine and collodion papers so much used at present, by no means a new discovery, but owe their general adoption to improvements made along other lines.

Collodion chloride papers were made about thirty-five years ago and gelatine chloride printing-out and developing papers about twenty years ago.

PRESERVATIVES.

Of the known preservatives neutral sodium sulphite is the one most commonly used and to it have been attributed many evils, some real and some imaginary.

To start with, there is prevalent among photographers a misunderstanding of the meaning of the term neutral used in this connection, and this misunderstanding has been the cause of the condemnation of many really good brands. The neutral used here does not refer to its reaction, or rather non-reaction, with indicators such as, for instance, litmus, but refers to the chemical composition of the salt.

Sulphurous acid has two atoms of hydrogen which can be replaced by an equivalent base or metal.

If we replace one of these atoms of hydrogen by an equivalent amount of the metal sodium we have acid sodium sulphite.

Sulphurous Acid.		Caustic Soda.
$\begin{matrix}H\\H\end{matrix}=S\ O_3$	+	$Na\ O\ H=$
Acid Sodium Sulphite		**Water**
$\begin{matrix}Na\\H\end{matrix}=S\ O_3$	+	H_2O

Acid sodium sulphite, or as it is commonly called, sodium bisulphite, reacts acid with litmus paper, but is called acid because it has still left an atom of hydrogen which can be replaced.

If we replace both atoms of sulphurous acid with sodium, we have neutral sodium sulphite.

Sulphurous Acid.		Caustic Soda.
$\begin{matrix}H\\H\end{matrix}=S\ O_3$	+	$2Na\ O\ H\ =$
Neutral Sodium Sulphite.		**Water.**
$\begin{matrix}Na\\Na\end{matrix}=S\ O_3$	+	$2H_2O$

Neutral sodium sulphite reacts alkaline to litmus paper, and is called neutral because the two replaceable atoms of hydrogen in the acid have been replaced by an equivalent amount of metal; that is, its affinity is neutralized or satisfied.

A similar relationship exists between carbonic acid and sodium bicarbonate and carbonate. In this case the bicarbonate (also called acid carbonate, and baking soda) reacts alkaline, and the carbonate (also called neutral carbonate, sal soda and washing soda) is strongly alkaline, as you all know. It is impossible to make neutral sodium sulphite acid, for if it is crystallixed from a solution made strongly acid with sulphurous acid, the pure crystals react alkaline.

From these examples the inference must not be drawn that all chemically neutral salts react alkaline; on the contrary, there are some that test neutral and others that test acid.

(To be Continued.)

THE MEETING OF THE WATERS. By HAROLD A. RAY

KODAKED LOVE.

From the Philadelphia Inquirer.

Hilda has a camera — I bless the day
she bought it!
Likewise she has "the fever" in
its most malignant form.
When I saw its possibilities, I straight-
way went and caught it,
And now we work together in her
dark room snug and warm.

The red light must be very dim, or
'twill result in "fogging,"
Indeed, I really think 'tis best to
have no light at all;
And if some zealous chaperon, our
guileless footsteps dogging,
Comes stealing to the bolted door,
she needs must knock or call.

In short, there's no convenience or safe-
guard that is wanting
To Hilda's little dark room; and you
will not think it queer
That our enthusiasm nothing can suc-
ceed in daunting.
Our pictures? Oh, we buy them! It
is so much easier.

The Second Chicago Salon

THE second annual photographic salon conducted under the direction of the Chicago Society of Amateur Photographers and the Art Institute was opened Oct. 1st in that city, by a reception at which the officers of the society constituted the receiving committee.

One hundred and thirty pictures were selected to be hung from the 800 sent in. The exhibit was shown in two galleries of the south wing, the pictures being placed against a dark green background which made a very effective setting for them.

The jury of selection was composed of two well known men, Henry Troth of Philadelphia and William B. Dyer of Chicago representing the photographers; and of J. H. Vanderpoel, lecturer in the department of figure drawing and painting in the Art Institute; Charles Francis Browne, lecturer in the department of landscape painting in the Art Institute, and Wm. Schmedtgen, water color painter.

The combination was a good one and the preponderance in favor of the art side resulted very successfully. We believe that artists, wherever and whenever possible, should always be judges of exhibits like this, as photography, being younger than painting should respect art workers. The burden of proof is still on photography to vindicate its claim to be considered a fine art.

A writer in Brush and Pencil criticising the prints exhibited finds that there is a good deal of the theatrical flavor about them, effects being forced so that one receives the impression that many of these photographs were designed scrupulously with reference to the connoisseurs who were to judge them. However, the display as a whole he declares, is a great improvement upon the salon of 1900, particularly in respect to unity in composition.

The landscapes and marines shown are of a strikingly fine quality. Henry Troth who easily leads in this line of work among American workers, shows a picture entitled "Cypress Trees," which represents some cypress trees on an elevation, with sea crests of white foam beyond; also a "Japanese Effect," in which the same trees are the rallying point of interest. E. M. Blaine's "Solitude" is a capital bit of work, W. B. Post's "Intervale in Winter" is worthy of much notice. "When the Summer Fields are Mown" is one of the strongest pictures in the exhibition—two stalwart, brawny tillers of the field looming up against the sky. An uncommonly fine example of the possibilities of artistic photography is found in S. Hudson Chapman's "In the Refectory"—a row of monks seated at table in a barren stone-lined room flooded with light which is very picturesque.

Edward Lavelle Bourke of Chicago has a picture entitled "A Gray Day in Town," which has attracted much attention because of its artistic qualities. "The Fish Cleaner" by F. E. Montreade of San Francisco, is another attractive picture, that has merited much praise and greatly resembles an old Dutch painting in its fidelity to detail. "The Guardians of the Doge's Ralace," by Garrett L. Reilly of Philadelphia is an exquisite bit of Venetian Life, in black and white. But it is in portraiture that the salon is specially strong and notable. There is Mrs. Sarah C. Sear's picture of Mrs. Julia Ward Howe, filled with all the grace and stateliness of a serene old age, Mary J. Deven's "Portrait of My Nephew" an exquisite study in outline of a boy with all

the delicacy of a charcoal sketch. Mrs. Elsie Pumpelly Cabot's "Nancy," M. McNaughton's "Sara," Laura Adams' portrait of Miss Henchell are all striking examples of the new school of portraiture.

One need not be a photographer to enjoy and appreciate these beautiful pictures of the Chicago Salon of 1901. Each year the process becomes less and less mechanical and the artistic instinct of the worker has freer play and wider scope. In the processes of retouching, toning, developing and printing one can give his work distinction and individuality. Some have already developed styles of their own, so distinctive, that their pictures can be recognized at once. Such is the work of F. Holland Day of Boston and W. B. Dyer of Chicago, both masters and leaders in a way.

A writer in Camera Craft, declares that in point of the qualities which go to make up a great painter, Mr. F. Holland Day seems to excel. He shows an admirable imaginative grasp of his motifs, in his Beauty is Truth. His Vas Lacrymarum, has the profoundly mystical quality that we find in the paintings of Elihu Vedder. His Menelik is beyond debate one of the technical triumphs of the Salon. The same writer declares that Mr. Dyer's portrait of Ralph Clarkson the painter has that subtle analysis of character, that virility of line and mass, that general assertion of power which marks mastery in any art. However this may be the Chicago Salon of 1901 will pass into history as one of the best photographic exhibits of the year. It has stood for the maintenance of the same high standards, as the successful exhibitions which have won the confidence of artist photographers both here and abroad. Photography is here treated in the truest sense as a creative art, and reflects the broad sympathies and catholic taste of the jury of selection. On the whole the exhibit is not so purely aesthetic as it was last year. Only twenty per cent of the total representation has been allowed to members of the so-called New School of Photography.

Indeed the question of faddism in photography is one to which the Chicago society has devoted a great deal of earnest consideration. The salon of 1900 was called into being by a joint committee of the society and the institute in the hope that it might be decisive as to the merits of this and other matters at issue, and, say the promoters of the present exhibit, "a dispassionate review of that salon proved that the central idea of all progressive camera workers should be the realization of artistic capabilities and the disentanglement of the beautiful from the commonplace according to the canons of fine arts."

THE ESPLANADE. Taken with Eastman Kodak, Pan American Exposition, Buffalo, N. Y.

THE ARTIST WILLARD. By HERMANN SCHERVEE.

London Letter

PERCY LUND

HOW remarkably your "American School" has influenced our style of mounting over here! The plain crayon papers, with several tints superimposed, and the passepartout are to be seen almost everywhere. The innovation is welcome, I hope it will continue to spread, for taste here in mounting greatly needed an upheaval, having become rooted into orthodox and not very desirable grooves. The worst of it is, the dealer or photographic chemist is the man who largely controls the style of mounts in this country, and he, save in his own estimation, has uncommonly bad judgment as to appropriateness and good style. My own view of the matter is that we have far too many of the "shoppy" kind of thing, "ready for use," and far too little of the sort of mount that is made by oneself to suit the particular subject—by cutting from the large board, by plate sinking in the wringing machine, by improving with pasted on pieces and so on. Uniformity in mounts is not wanted — it is variety one should aim at, but of course anything bizarre is to be carefully avoided.

Mentioning orthodox sizes raises another point bearing on the same question. The popularity of panoramic cameras is in my opinion less attributable to the very extensive field included in the view which one obtains with them, than to the unusual and pleasing shape. After years of 4 1-4 x 3 1-4, and 6 1-2 by 4 3-4, the man in the street is delighted with a narrow oblong. It never occurred to him that this and other uncommon shapes may be cut out of prints of the more familiar size. How much longer will man in the street keep to orthodox dimensions because forsooth, his plates or his mounts are a fixed size? Only the other day, I saw a landscape with half an acre of pasture in the foreground before the picture itself began, simply because the 15 x 12 plate-sunk mount had to be filled. And this was professional work! Believe me, one of the great secrets of success in making photographs is to consider each print separately and cut it down to the size which is best suited to it. Again as to mounting, use only plain boards or stout paper, and cut them up yourself if need be. Uniformity, save for some special reason, is not desirable; though on the other hand, it must not be forgotten as I have previously stated, that trimming and irregularity may be carried to an extreme.

Well, so much for size and shape, essential considerations for the photographer who wants to do better than the rubbishy work that amateurs turned out ten or twenty years ago.

Some curiosity has been aroused recently by the discoveries of a scientist named Ernest Ruhmer relative to the reproduction of sounds by means of their effect on light. A particular form of light is acted upon by sounds, and photographed as it flickers and alters its shape, upon a long film which revolves. The series of images thus obtained is then thrown upon a sensitive selenium cell in the circuit of a dry battery, and the sounds are thus reproduced with astonishing distinctness. Should the methods of Ruhmer become commercially practicable the discovery will very likely lead to great developments. As yet, however, the process seems to be in its infancy.

Living out in the country as I have been doing recently, the question of constructing temporary dark rooms has necessarily come under consideration. I may venture to give a few practical notes on the subject, as almost every amateur has this sort of thing to do sometime or other in his career.

For temporary dark-rooms the best situation is undoubtedly the bath-room. It often proves a capital place, especially if it should contain a lavatory basin with a cupboard below, of which some portion, at any rate, can be devoted to storing dishes, bottles, etc.

It is usually a very simple business to convert an ordinary bath-room into a temporary photographic laboratory. The first thing necessary is to make a contrivance for blocking up the window. Towards this end a light framework must be constructed of four laths and one or two cross pieces exactly the size of the window recess. The cross pieces are to strengthen the framework, and only in the case of a large window need there be more than one. Upon the framework fasten with tacks two or three thicknesses of stout brown paper, letting them wrap over the edge to make a pad, so that the framework may fit tightly into the recess and exclude all the light. In order that the framework may fit with the greatest precision, strips of green baize or some other soft material may also be fastened round the edges. About six inches from the lower extremity of the framework fasten a strip of stout canary paper, such as the photographic dealer sells, about six or eight inches wide, consisting of two thicknesses. Carefully fit the brown paper over its upper and lower extremities, so that no white light can get in. This is your non-actinic window. Two thicknesses of the yellow paper are quite safe for ordinary plates, but if at any time the sun should shine directly on the window, it will be an easy matter, as well as a desirable precaution, to put an additional thickness of the paper temporarily in front of the other. This loose light screen can be held in place in the window, if it does not jam up tight enough by itself, by a stout nail projecting on one side of the recess, behind which one side of the framework is pushed every time it is to be put into position.

Another little bit of joiner's work is desirable in order to facilitate manipulations. Nail a few strips of wood together at right angles to each other, so that they will rest upon the edge of the wash basin This is to be the developing table s·o that if any solutions are spilt they fall through these cross pieces, and then into the wash basin, and not on to any woodwork at the side. Just leave enough room to get to the tap, so that you can fill a measuring glass or a dish with water during operations. If there is not room on the cross lath for all the dishes you are using, an old tray, or a wooden one specially made, is a decidedly useful acquisition, an old box lid will do at a pinch.

To work by night artificial light will, of course, be needed, and a cheap but excellent lamp can be constructed with a sheet of canary paper, and two or three pins. Fold the sheet double, and then roll it round in the form of a cylinder, pin the ends together, place this cylinder over a candle, and cover the top with a folded newspaper or anything which comes handy, and there you are, a dark room lamp at a cost of three pence.

With these practical notes, I will say adieu for the present month.

Foreign Abstracts

The Permanence of the Latent Image. Johannes Gaedicke of Berlin commenced in 1899 a series of experiments designed to show whether the latent image changes if allowed to remain undeveloped for a time. His experiments are planned to last seven years, and consist essentially in impressing a certain number of plates with an image and packing them away with others unexposed. At the end of a set period, the remainder are exposed under identical conditions, and both lots developed at one time and compared. The results so far are as follows:

1. The latent image on gelatino-bromide of silver undergoes after keeping a certain time an alteration in tones and vigor. The action is retrogressive.

2. Plates covered with a pure gelatino-bromide emulsion do not increase in sensitiveness with time, but lose in intensity and give more harmonious negatives.

3. Dry plates by keeping become more resistant to the penetration of the developer. The toughening of the gelatine commences immediately and becomes sensible after four months.

4. Dry plates four months old give more harmonious images than new ones. (Bull. belge, 1901 : 537-543, September.)

Modified Ozotype. E. Weingartner gives a modified process for ozotype, which consists in treating the prints with aniline hydrochlorate to get a precipitate of aniline black or emeraldin. The process is thus carried out:

SOLUTION A

Sodium bichromate	20 g
Manganous sulphate	20 g
Water	100 g

SOLUTION B

Gum arabic	40 g
Water	100 g

Use equal parts. Well-sized paper is brushed over with the solution and dried in the dark. It is printed under a good negative and then washed and dried. The dry print is stretched on a board and quickly brushed over with a thick solution of aniline hydrochlorate in gum arabic, to which a few drops of hydrochloric acid have been added. The picture quickly appears in light green and passes through dark green to blue. It is now quickly soaked and washed until all the acid is removed. After drying the image is violet blue-black. (Phot. Centralblatt, 1901, No. 12.)

Permanence of Chlorplatinite. According to the "British Journal of Photography," potassium chlorplatinite keeps well in aqueous solution if pure water is used; on the other hand the solution shows a tendency to decompose if it is made with rain water. To avoid this it is only necessary to acidify slightly with hydrochloric acid.

Potassium chlorplatinite, in itself stable in the light, is rendered light-sensitive by the addition of organic matter. Solutions made with perfectly pure distilled water are very stable, but those containing only very small proportions of organic matter decompose in the light with separation of platinum. Since it is very difficult without costly precautions to prepare the salt completely free from organic matter (for instance, even in filtering particles of paper fibre get in), it is well always to keep the solution in the dark. It then keeps perfectly well without acid. (Phot. Mitteilungen, 1901 : 255, Aug. 15.)

Ferric Sulphate Reducer. The advantages of ferric sulphate or iron persulphate as a reducer are extolled by F. C. Lambert. As this salt is not to be obtained commercially, the following directions are given for its preparation. Take one ounce, seventy-six grains of ferrous sulphate crystals and dissolve in about two ounces of water; add slowly, stirring well, 98 grains, or, say, 60 minims of sulphuric acid. Warm in a porcelain dish to about 120° F. Then add nitric acid drop by drop until the dark mixture clears to deep orange. This requires about 90 drops. This must be done in a strong draught, as choking red nitrous fumes are plentifully liberated. Now heat the mixture for a few minutes and allow to cool. Dilute with water to four ounces to make stock solution. For use add twenty-five drops to one ounce of water. Soak the negative previously in water until the gelatine is soft, then immerse the plate and rock until the required reduction is almost reached, as the action continues a little, then pass the plate through three successive baths of water made slightly but distinctly acid with sulphuric acid and dry. The advantages claimed for this reducer are that it is cheaper and more stable in solution than ammonium persulphate, and that it does not soften the gelatine. (Amateur Photographer, 1901, 34: 88, Aug 2.)

Plate Backings. The "Photographic News" gives a collection of formulas for plate backings, to decrease or prevent halation, and especially recommends the following:

1. Formula of Ducos du Hauron:

Pure paraffin	20 pts
Olive oil	20 "
Lamp black	10 "

These substances are mixed in a dish on a waterbath or sandbath. The mixture is then spread on the back of the plate while hot.

2. Caramel formulas like the following are much used:

Powdered caramel	30 g
Hot water	30 g
Wood alcohol	15 g

It is well to add also a few drops of glycerine, as the layer else is too brittle and tends to flake off.

3. Baldock gives this process.

Celluloid	5 g
Acetone	90 g
Amyl Acetate	30 g

The solution is colored to the necessary intensity with aniline red (rubin.)

Removal of Stains. The following recipes for removing stains of different kinds are taken from Gioppi's "Dizionario fotografico." Pyrogallic acid: Rinse the hands in dilute citric or hydrochloric acid and wash with soap. Oxalic acid, chloride of lime. Very dilute nitric acid.

Silver nitrate on hands: Rub the moist hands with table salt, then wash in a solution of hypo.

Iron: Chloride of lime, then water and ammonia. Oxalic acid and potassium carbonate in solution successively.

Rust: Dilute sulphuric acid. Dilute hydrochloric acid, then soap. Solution of 1000 cc water, 10 g zinc chloride, 3 g tartaric acid, 2 g corrosive sublimate.

Ink: Five per cent solution of permanganate of potash, followed by dilute sulphuric acid. Chloride of lime. Oxalic acid.

Printing ink: Olive oil and potash.

Resins: Absolute alcohol.

Varnish: Turpentine, benzine.

Iron on cloth: Oxalic acid, then five per cent sodium carbonate solution.

Nitrate of silver on negatives: Dilute solution of potassium cyanide (poison.)

Fly specks on prints: Soap dissolved in alcohol.

THE CRUCIBLE

BOFLAY. Boflay is a prepared developer put on the market by the Boflay Camera and Chemical Co. of Newark, N. J. Its characteristic property is that it not only develops the plate, but fixes it at the same time. It is claimed that no matter what the exposure may be, the hypo fixes the plate no faster than it is developed. We find, however, that the best results are obtained from a rather full exposure. The resulting negative then has excellent gradation. Thin or dense negatives, obtained from incorrect exposures, may be intensified or reduced as well as after ordinary separate development and fixing. One considerable advantage is that the watching of plates is abolished. One may put in his plates, cover the dish and read the latest novel for thirty minutes and the results will be exactly the same as if he had nursed them with bromide and accelerator. The developer may be had of the trade, or ordered from the manufacturers, whose address will be found in our advertising columns. Mention the PHOTO ERA.

RATIONAL DEVELOPMENT. It is well known that when a developer is made up in one solution the control over the plates is practically very small. The addition of bromide or alkali is only a makeshift, and all depends on the exposure. It is also well known that overexposure even twenty times the normal will give perfect negatives by appropriate development, and we propose to discuss one of the methods of rational development. This is the so-called two-dish method. It was proposed by Austin Edwards some ten years ago, but has met with little favor except in France, where it is perhaps the prevailing method. The developer is prepared in two solutions. Following is the formula of Edwards:

A.

Sodium sulphite crystals	100 g
Hydrochinon	10 g
Eikonogen	5 g
Water to make	1000 cc

B.

Carbonate of soda dry	50 g
Water to make	1000 cc

Two dishes are marked marked A and B. In A one places 200 cc of solution A and 3 cc of solution B. In B put 200 cc of solution B and 3 cc of solution A. The dish A is placed in front of the operator and B one side.

The plate is placed in A. If it is overexposed the image will appear quite rapidly and may even entirely develop. If it is correctly exposed the high lights alone will appear and gain intensity. The negative would be hard, so it is immediately placed in B, where the details and half-tones will appear. If when fully developed in B, it appears too soft, a minute in A will give it vigor. If, finally, the plate is underexposed, nothing will appear in A. The plate is soon placed in B, where the details will appear. If they come too slowly, the plate is put back into A for a moment and then transferred to B. By intelligent manipulation one can obtain at will intensity or detail or both. A gives intensity or vigor, B softness and detail. It must be remembered that softness is near fog and vigor tends to hardness.

ACETONE. Since our recent publication of Dr. Vogel's pyro-acetone formula, we have had several requests from correspondents for information about acetone. Some of our readers living in small towns have not been able to obtain it, and sometimes the druggist does not know what it is. Acetone is the commercial name for the substance known to chemists as dimethyl ketone. Properly all bodies in which the carboxyl of an alcohol is replaced by a C O group are acetones or ketones, but the name acetone is usually applied to this particular one, while the rest are called ketones. Acetone is a liquid and is miscible in all proportions with water, alcohol and ether. It is a very good solvent for many organic bodies and is used in large quantities technically on account of this property. The medicinal uses are few, consequently it may not be carried in stock by druggists in small towns, but they will quickly procure it to order. The medicinal quality should cost ten or fifteen cents an ounce, including bottle, while the technical quality, good enough for photographic purposes is quoted at fifty cents a pound wholesale, and is put up in various sizes of packages from one ounce up.

The Lumiere brothers have discovered that acetone may be used in developers in place of an alkali, and have published some formulas for such developers, one using formaline instead of acetone having been reprinted in our Foreign Abstracts column some time ago. There appears to be no real advantage in such a substitution, although the experiment is interesting. The use of acetone as a solvent is exemplified on the preceding page.

Notes and News

PLATE ATTACHMENT. We are informed that the C. P. Goerz Optical Works are now ready to fit their new plate attachment to the No. three Eastman Folding Pocket Kodak, so that both plates and films can be used where heretofore films alone could be used. The advant ages of using a plate attachment of this description are, that pictures can be focused on the ground glass, that all kinds of plates can be used, whereas there is only one kind of film made; also the saving of the cost of material, plates costing about one-half and being much easier to handle, the difference soon paying for the cost of the attachment. Write for further information to the C. P. Goerz Optical Works, 52 East Union Square, New York City.

PHOTOGRAPHING A CITY On October 19th the California Camera Club set out to photograph the City of San Francisco.

The work was done under the direction of an executive committee composed of the following gentlemen: Carl E. Ackerman, W. E. Dassonville, E. H. Kemp, J. R. Gwynn and D. H. Wulzen, Jr. The committee apportioned the city into districts and assigned the members to the various divisions.

In districting the city special attention was given to the picturesque and historical features of the metropolis. The water front was portioned off into fifteen districts, Golden Gate Park contained seven, Chinatown four, the Latin quarter five, and in this way every feature of San Franciscan life was mirrored.

The idea is one that ought to be copied by every city and town in the country.

BOSTON EXHIBITION. A special exhibition of photographs selected from the salon of the Photographers' Association of New England, was opened during October, in the water color room of the Museum of Fine Arts, Boston. There were fifty-one large and small examples, representing the best work of professionals in all sections of the United States. A solitary amateur, Mr. Horace A. Latimer of Boston, shows by invitation. For the first time, photography has received the approval of the trustees of the Boston Art Museum by virtue of having a place in the building.

SUBMARINE PHOTOGRAPHY. Naval Surgeon Tessipoff of the Runidi Baltic fleet, has been making some extraordinary experiments in submarine photography during the summer cruise, says a Moscow newspaper. The results obtained have been satisfactory, although great natural obstacles had to be overcome. These experiments of Surgeon Sessipoff tend to show that, with improved apparatus, it will be possible to photograph anything in or at the bottom of the sea, regardless or depth.

It is an expensive experiment if practised by means of a regularly equipped submarine camera, which costs something like $700. A simpler and less expensive method is the employment of the cystoscope, which is a device that may be attached to any camera.

The cystoscope is a bent tube. To the end which is placed in the water an Edison illuminating contrivance is attached. The other end connects with the camera which is kept in the dry atmosphere. At the bend in the tube is placed a prism which reflects the image at the end of the tube. Any amateur can learn to manage this arrangement.

ROCHESTER, N. Y. In the interests of fair play we reproduce a statement taken from a recent issue of the Kodak Trade Circular in reply to a paragraph going the rounds of some of our esteemed contemporaries. The paragraph in question refers to a patent for manufacturing films granted in 1898 to Rev. Hannibal Goodwin of Newark, which is claimed to be a foundation patent. The facts of the matter, says the circular, are that Goodwin, after he had learned of our success in perfecting a process for the manufacture of rollable transparent films, and after we had successfully marketed such films, raked up an old application which he had sleeping in the Patent Office, copied into it a lot of matter he obtained from us, and then tried to raise an issue in an interference proceeding with the Reichenbach application. After a hot fight we made him show up what he had in his original application, and obtained a decision from the Commissioner of Patents which put on him the burden of proving that he had first made the invention. This decision was as follows:

"It is found that Goodwin did not claim the improvement in controversy nor make a statement of invention equivalent thereto until after the same was claimed by Reichenbach, wherefore the burden of proof is on Goodwin."

Goodwin did not attempt to support this burden, obviously because he could not, and decision of priority was made in favor of our assignor. Afterwards Goodwin disclaimed our process under his oath.

Book Notes

PORTRAIT PHOTOGRAPHY. We would call the attention of all who are interested in good portrait work to the August and September numbers of "Internationale Musterblatter von Portrait-Aufnahmen." These numbers contain many beautiful examples of portrait work by professional workers of the best type in many countries. Weimar: K. Schwier. M. 1.60.

BETTERING NEGATIVES. There comes to our table a book entitled "Improving the Negative," by Henry G. Abbott. Its seventy small pages are devoted to the reprinting of a mass of well known formulae and directions, with hardly a word which is original with the author. Undoubtedly all the methods are well tried, but with hardly an exception, everything in the book will be found in an article entitled "Doctoring the Negative," published in the October PHOTO ERA.

PHOTOGRAPHIC LITERATURE. What should prove of great value to amateur photographers in New York and vicinity is the photographic library of Henry Kahn & Co., 189 Broadway. All the standard works on photography are on file and subscribers can have the use of any book for a period not exceeding seven days. Every amateur photographer has often felt the need of a ready reference library and this enterprise of Henry Kahn & Co. will fill a long felt want. For the amateur who wishes to look up a formula, reading accommodations are to be found right in the store. A norminal fee of one dollar a year is charged. New books of value will be added from time to time and we strongly advise our readers to send to Henry Kahn & Co. for their library pamphlet.

ILL. COLLEGE PHOTOGRAPHY. We have recently been favored with a neat catalogue by the IllinoisCollege of Photography, of Effingham, Illinois. The object of the catalogue is to bring the merits of this particular school to the attention of the public and this it does, in a very effective and convincing way. This school was originally established in 1893, so that it may partly be said to have passed through its experimental stages and to have developed now into a regular system. We are glad to note the success which has attended the enterprise thus far, as this publication would indicate.

HISTORICAL PHOTOGRAPHY. The Philadelphia Bulletin announces that members of the Teachers' Photographic Association and the Camera Club of Philadelphia arranged for an outing at Avondale on Oct. 12. The historic sites in that vicinity were photographed, and made into magic lantern slides, for use in the public schools.

WOODLAND AND MEADOW. This is the title of a handsome book recently published by W. I. Lincoln Adams, the well known author of "In Nature's Image," "Sunlight and Shadow," etc. It embodies a series of papers and photographs illustrating life on a New England farm and is modestly put forth by the author as merely suggestive of some of the interests which attach to life on a New Hampshire hilltop farm. The book is the result of a labor of love by one who has manifestly preserved through all the blandishments of city life a love for the simple things of the country. These he has idealized and reproduced in half-tone pictures of a high order of merit. Baker & Taylor Company, New York.

ANNOUNCEMENT. Believing that the readers of PHOTO ERA are interested in its success, and realizing that the largest success is only attainable through and with the co-operation of present subscribers we beg leave to direct your attention to our plan outlined elsewhere in this issue and trust that we may count on you to promote to the best of your ability the interests represented.

PHOTO ERA has always aimed to "lead" in matters photographic, and to-day, holds undisputed, the foremost position among the magazines in its class, but still, that is not sufficient. We realize how much more might be done to improve and idealize the appearance and contents of the magazine, could we but be assured of your co-operation in the matter of securing new subscribers.

It is absolutely necessary that we have at least 50,000 subscribers before assuming the expenditures that our projects would entail. This number we hope to secure by May 1st, and it can be done if you will devote a little of your time to helping us. As you will see below, we offer to recompense you for your trouble, and in regard to the several articles described would say that they are just as represented and will, we are sure, give perfect satisfaction.

The Round Robin Guild

Conducted by Elizabeth Flint Wade

(Any Subscriber to PHOTO ERA may belong.)

In one of our larger cities a number of ambitious writers have formed themselves into a little society called the Consolation Club, the aim and object of the club being the advancement of its members in their literary pursuits. Each member is expected to have a love for the work, a desire to excel, a determination to succeed in spite of obstacles, be impervious to the "blows of circumstance," and to eliminate the word "discouraged" from his or her vocabulary. It is a unique organization in the fact that it has no officers, no membership fees, and no hard and fast rules. The members, however, are pledged to fulfill certain obligations, one being to bring to each meeting an original manuscript to be read aloud, and at the close of the meeting to be dispatched to the office of some publication for which it is deemed suitable. After the reading is over, the members "exchange experiences" and thus learn many things not set down in books, but which are invaluable to them in their special line of work. So helpful has this little club proved to its members, that several of them are a long way up the stairway that leads to the Temple of Literary Fame.

When the idea of this new photographic association was first suggested by the Editor, the plan adopted by the Consolation Club seemed an admirable one on which to organize this society. Its members would be so widely separated that there could be no regular meetings, consequently there would be no need of officers. Each member, therefore, being of equal rank with every other member, what name more fitting to express this condition than that of "Round Robin." But the "Round Robin" what? Not the "Round Robin Club" for a club is an organization of persons who meet for social intercourse, or other common objects, and this organization does not design to hold meetings. But a guild is a corporation or association of persons engaged in kindred pursuits for mutual protection and aid, and as soon as this name was thought of, the organization was written down, THE PHOTO ERA ROUND ROBIN GUILD.

Any amateur photographer who has a love for the work, a desire to excel, a determination to succeed in spite of obstacles, is impervious to the "blows of circumstances" and knows not the meaning of "discouragement," and who desires to associate himself with the Guild for mutual aid, will be gladly welcomed as a member of the society.

Like the Consolation Club, the Guild will exact no dues or fees. The editor of the PHOTO ERA has kindly opened the pages of his magazine for the benefit of the Guild, and in the space devoted to its interests, will be set forth certain suggestions intended to serve as guide-posts along the photographic way. Here also members may seek advice, and "exchange experiences."

The aim of the Guild is to raise the standard of amateur photography, and to direct its members how to make the best use of their cameras, and while it is conducted in the interests and for the help of the beginner, the advanced worker will find in it many helpful suggestions.

Three "exchanges" will be conducted by the Guild, — an "idea" exchange, a print, and a camera exchange.

Emerson says that "he exchanged experiences and learned something." We ask the members of the Guild to send to this department helpful suggestions, new ways of doing things, and "experiences" which will be of benefit to their fellow workers. Through the print exchange members in one part of the country may exchange prints with members in some other part. Notices of exchanges will be printed in the exchange department free, for notices confined to ten words, exclusive of name and address.

In the camera exchange, any member of the Guild who wishes to exchange a camera or other photographic apparatus may have the privilege of having the notice published in the exchange department, provided it is limited to twenty words, exclusive of name and address.

The Correspondence Department will receive special attention. Any question received before the fifteenth of the month will be answered in the issue of the following month. Answers, not too long, will be sent by mail if the querist will enclose with his questions a stamped and addressed envelope.

The Guild will also establish a Historical Photographic Record Chapter for the purpose of collecting photographs of historical plaees and depositing them in some public library or with some Historical Society for safe keeping. What we would like to do would be to interest enthusiastic amateurs in the capital of each state who would be willing to undertake the receiving, cataloguing,

and safe depositing of the prints of their own special state. Members living in different parts of the state would co-operate with them by sending them prints of historical places. Such a collection would need to be uniform in finish and prints would therefore need to be sent unmounted to the committee, who would mount and label them. Who will be the first to start a State Photographic Record Chapter using the Round Robin Guild as its herald?

A yearly competitive exhibit of photographs will be another feature about which more will be told later.

Any amateur photographer who desires to avail himself of the benefits of the Guild may become a member by sending name and address to the Round Robin Guild, PHOTO ERA, Boston, Mass., and a membership ticket will be forwarded by return mail. Circulars, announcements, etc,. will be sent from time to time as they appear.

* * * * * *

Though one requires no special qualifications to make him eligible for membership in the Guild, it is hoped that those who join will possess certain attributes, and those to whom these qualities are not inherent will be expected to cultivate them to the best of their ability. These qualities are included in Ruskin's definition of cooking. "Cooking," says this observant philosopher, "means the knowledge of Medea, and of Circe, and of Calypso, and of Helen, and of Rebekah and of the Queen of Sheba. It means the knowledge of all herbs, and fruits, and balms, and spices; and of all that is healing and sweet in fields and groves, and savory in meats. It means carefulness and inventiveness, and watchfulness, and willingness, and readiness of appliance. It means the economy of our great-grandmothers, and the science of modern chemistry. It means much tasting and no wasting. It means English thoroughness, French art and Arabian hospitality."

Now among my acquaintances, is a woman whose fame for her skill in cooking has gone out into all the region round about her dwelling place. Yet she never heard of Medea, or Circe, or of Calypso and her knowledge of the Queen of Sheba is limited to the fact that her Highness was a wise woman who once stood before King Solomon. The science of chemistry is to the rare cook in question an unknown quantity, and she is ignorant of the fact that bicarbonate of soda is $NaHCO_3$. But she knows the effect of bicarbonate of soda, and the effect of every other ingredient she uses, and just how much of each to combine in order to make a perfect whole. Many times have I stood by her as she took from boxes, and drawers and cupboards, various condiments, and watched with what unerring judgment she measured the quantities she needed and with deft hand put them swiftly together in one of her choice confections. "Let me have a pan, a spoon and a cup," she says, "and I can cook anything;" and given the said utensils she immediately proceeds to demonstrate the truth of her assertion.

The secret of her success lies in the fact that she possesses those qualities which Ruskin might well have placed at the head of his list of definitions of cooking, namely:"

"Carefulness, inventiveness, watchfulness, willingness and readiness of appliance." Having these, she would succeed in any undertaking to which she gave her time and attention, and it is these same attributes which we wish each member of the Guild to possess or to cultivate.

What is the meaning of carefulness in its application to photography? It means circumspection, watchful observation and calculation. It means precaution and preparation. It means accuracy in regard to detail. It means attention, which is another term for tension or effort in the directing of the mind toward some specific object. It means prudence and foresight. It means tidiness, order, and cleanliness. It means alertness and activity, and most of all it means that great "price of liberty," eternal vigilance.

While the aim of the Guild will be to advance pictorial photography, and to raise the standard of pictorial work among amateurs, the technical part of the art will receive its due share of attention. If "readiness of appliance" is one of the features of success in cooking, it is generally as important in photography. The modern proverb of the "man behind the gun," has quite as subtle a meaning when paraphrased to read, "the man behind the camera."

* * * * * *

It is estimated that there are now at least 1,500,000 amateur photographers in the United States. Every one of this number can doubtless make photographs, but it is safe to say that comparatively few can make pictures. The majority of those who essay to make pictures by the aid of a camera, have not even studied drawing. The laws of composition are understood as little as Sanscrit or Hebrew. Now by whatever means one makes pictures, he must know something of the laws of composition. Here beginneth, therefore, the first leson in picture making with the camera, — Composition.

Composition cannot be taught in the limited space allotted to our Guild. Its members must seek more prolific sources of in-

formation. Two books which can be recommended as wonderfully helpful in cultivating the art of seeing a properly composed picture are Van Dyke's "How to Judge a Picture," and "Art for Art's Sake." Then there is that remarkable book on "Composition" by Arthur Dow, which states old ideas in a new way, and new ideas in a most fascinating way. It explains very clearly the points with which the amateur who aspires to become a pictorial photographer, should become familiar. Two other books designed specially for the use of amateur photographers are, "Pictorial Effect in Photography," and "Landscape Photography," by the late H. P. Robinson of London, England.

One of the best object lessons in pictorial landscape photography, is to select three or four photographs of paintings of some master in landscape work, and then choosing some locality which looks promising endeavor to arrange on the ground glass of the camera a picture which shall follow the general arrangement of the principal objects in the model chosen. This is not so difficult as one may imagine. Even a city park has undreamed-of possibilities in the way of pictorial subjects if one has the eye to see them. The country amateur has his landscape material close at hand, while the city dweller may avail himself of the all-prevailing trolley to transport him to fruitful fields for experiment. In such a study as here suggested, one must pay special attention to lights and shadows, for the arrangement of the dark and light masses of a picture, determine, to a great extent, its value as a piece of artistic work.

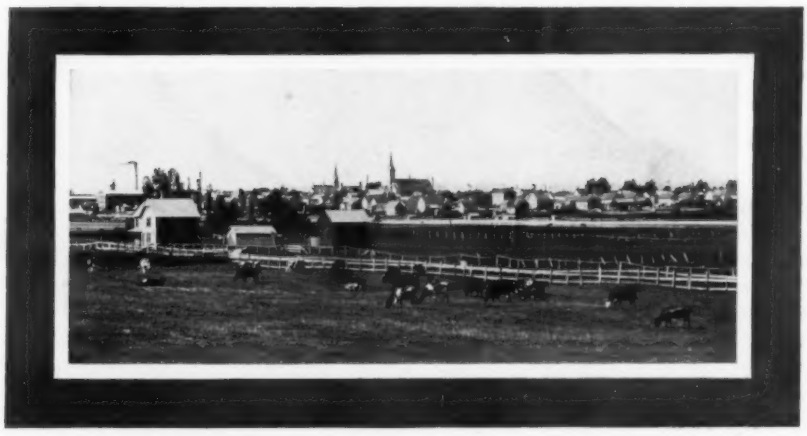
* * * * * *

We are told that in the art of painting there are three elements by which beauty may be created. The first is line, meaning the boundaries or outlines of the objects. The second is light and dark masses. The third is color. In photography we have the use of the first two, — line and light and dark. Mr. Dow in his book on "Composition" says that the Japanese have one word by which they express the term, light and dark. This word is Notan. When the Japanese speak of the Notan of a pattern or a picture they refer to the arrangement of its light and dark masses. This word might be added to the vocabulary of the photographer, for the beauty of his photograph depends in large measure on its Notan, — in other words, the arrangement of its light and dark masses.

With this thought in mind, — the Notan of a photograph, — look over a collection of amateur prints and notice how few have the light and dark masses well arranged or balanced. For the most part, light and dark patches are scattered indiscriminately over the pictures, so that they might aptly be termed, polka-dotted photographs.

Now Notan is but another name for composition, and composition is another name for invention, and proper arrangement of the light and dark is a long step toward good composition.

Our first guide-post then bids the members of the Guild look well to the Notan of their photographs.



LONG DISTANCE LANDSCAPE. By John Braun.
PLASTIGMAT CONTEST

PHOTO ERA

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NOVEMBER

The frost is on the hills, and Summer's work is done.
I fain would think that gentle Nature grieves
O'er all the lessening splendors of the setting sun.
Rand.

The PHOTO ERA exhibit at the Pan American Exposition, was planned to bring to the attention of the American people the PHOTO ERA, the American Journal of Photography, a high class publication designed to be a permanent record of photographic art in America. Our exhibition pictures, selected with the greatest care from all sections of the country, represented the real American School of Photography in its best and most catholic sense, while the various methods of reproducing in halftone, heliotype, photogravure and three color process, each with a character and charm all its own, set forth the general excellence of the PHOTO ERA in this particular line of artistic work. These latter were shown at the Pan American by the PHOTO ERA attendants in portfolios, in single numbers and in beautifully bound volumes of the PHOTO ERA. The success of the exhibit as a whole is abundantly shown by the awards, viz.: a silver medal for excellence in photographic illustrations and a diploma of honorable mention in the magazine class, for superior merit as a publication. Thus it will be seen, that we enjoy the unique distinction of receiving two awards for a single exhibit — a distinction of which we are justly proud. It is gratifying to note also, that the jury of award has been quick to see the motive underlying a publication like the PHOTO ERA. The development of photography along educational and artistic lines, appeals strongly to the American people. The honors accorded the PHOTO ERA at Buffalo, abundantly prove this and we repeat with the poet,

"It is not in mortals to command success,
But we'll do more — deserve it."

London Salon. Especial interest attaches to the ninth annual Photographic Salon, held in October in the Dudley Gallery, Piccadilly, London, from the fact that the representation of American work was larger than ever before in the history of the "Linked Ring's" exhibitions. Last year was known as "the year of the American invasion," but its record has been broken this year, and the catalogue of the 1901 Salon shows that thirty-three exhibitors from America contributed ninety-eight pictures, or more than one-third of the entire display. The London Salon is the chief event of the year for the pictorial photographers of the world, and the acceptance of a picture is one of the highest honors that can fall to a worker in that line.

The Americans whose work is rep-

resented are as follows: C. Yarnall Abbott, Philadelphia; Prescott Adamson, Philadelphia; Arthur E. Becker, Milwaukee; John G. Bullock, Philadelphia; S. H. Chapman, Philadelphia; F. Holland Day, Boston; William B. Dyer, Chicago; Thomas M. Edmiston, Newark, O.; Rudolph Eickemeyer, Jr., New York; Frank Eugene, New York; George D. Firmin and Charles E. Frick, Philadelphia; Arnold Genthe, San Francisco; Mrs. Gertrude Kasebier, New York; Joseph T. Keiley, New York; Miss May Morgan Keipp, Selma, Ala.; F. K. Lawrence, Chicago; J. Ridgway Moore, New York; Miss Anne Pillsbury, Boston, Miss Olive M. Potts, Philadelphia; Robert S. Redfield, Wayne, Pa.; T. O'Conor Sloane, New York; Miss Ema Spencer, Newark, O.; Mrs. George A. Stanbery and Miss Katharine S. Stanbery, Zanesville, O,; Edward J. Steichen, Milwaukee; Alfred Stieglitz, New York; Edmund Stirling, Philadelphia; J. C. Strauss, St. Louis; Mrs. Isabel C. Taylor, Vancouver; Mrs. Martin Schutze (Eva Lawrence Watson), Philadelphia, Miss Mathilde Weil, Philadelphia; Clarence H. White, Newark, O., and S. L. Willard, Chicago.

The largest number of pictures accepted from one exhibitor was eleven, that honor falling also to an American "Link," Clarence H. White of Newark, O.

The exhibit includes also pictures by sixty English, three Scotch, one Irish, ten French and three Austrian photographers.

Philadelphia Salon. The fourth photographic salon to be held by the Pennsylvania Academy of Fine Arts and the Photographic Society of Philadelphia will open in the galleries of the Academy in that city, on November 18th. It is to be hoped that the misunderstandings of last year will not result disastrously for the success of the Salon. Reports evidently inspired, have been industriously circulated urging exhibitors to refrain from exhibiting, because the standard will be relaxed and the art "popularized." Some of our English contemporaries have been misled into making statements of this character, which are absolutely without foundation in fact. The Pennsylvania Academy of Fine Arts is lending its influence and name to the Salon of this year as never before. There is distinct evidence that the new salon management, without in any way lessening the artistic standard of former years, will interpret photographic art to mean only a more liberal construction of the existing salon rule, viz: that pictures to be acceptable must show individual artistic feeling and execution. Heretofore, the "Disciples of Camera Notes" have always claimed an exclusive on all this field of artistic endeavor, which everybody knows should be as free as the air we breathe and as open as the sunshine. In the language of the East Aurora School of Philosophy, "the Disciple is one who hitches his ice wagon to a star," And we venture the prediction that the frozen spirit of art which Mr. Keiley discovered in the Chicago catalogue last year, will "melt and dissolve itself into dew," before the Fourth Philadelphia Salon this year.

San Francisco Salon. In a handsome little brochure the California Camera Club announces that, in conjunction with the San Francisco Art Association, the Second Photographic Salon will be held at the Mark Hopkins Institute of Art, in that city, for two weeks, beginning January 9, 1902. All entries should be sent marked San Francisco Photographic Salon, Mark Hopkins Institute of Art, San Francisco, and be delivered not later than Dec. 10, 1901. We are pleased to call attention to this salon which is rapidly

becoming one of the leading exhibits of the country. The enthusiasm of our coast brethren under the able guidance of Camera Craft and the indefatigable Ackermann, lead us to hope for great things from their Second Photographic Salon.

Platinum Famine. The growing scarcity of platinum, forcibly called to mind last winter by the action of the German Reichstag in threatening to forbid its use in photography, is again recalled by the appeal of the Welsbach Company and the Department of Mining and Metallurgy of the Pan American Exposition. Both issue circulars, strongly appealing to prospectors and miners to search for iridosmine, one of the ores of platinum. For the last two or three years,osmium has been used in incandescent gas mantles, and the result is that the world's supply of iridosmine is entirely exhausted. Previous to this new demand, the gold pen makers bought all the iridosmine, and picked it over with microscopes in search for scales suitable for pen-points, as every gold pen, on account of the softness of the metal, must have a hard tip. The rejected iridosmine had little use except to chemical investigators. Some iridium is used in dentisty and the making of philosophical instruments, and a small amount of osmium was turned into osmic acid, used as a microscopic reagent. Now, the price has advanced, so that a deposit would be as valuable as a gold mine. In fact, the substance is likely to be found together with gold in placer mines. It is heavier than gold and will remain in the pan with it. It may be easily identified by its silvery white color and its weight. It is likely to be found in any gold bearing region, and has been found in this country mostly in the shore sands of the Pacific Coast. Any mineral corresponding with the description should be sent either to the U. S. Geological Survey, Washington, or the Welsbach Company, Broad and Arch Streets, Philadelphia, and the finder may be assured that his rights will be respected and that he will be liberally paid for his find, if it is the desired substance.

Platinum will probably be found at the same time ;and as the price of this metal has tripled in the last ten years, and it is now worth more than gold, with an unlimited demand, its search is well worth while. As the metal is now so valuable, we advise all our readers who use platinotype to carefully save all their paper clippings, developed or undeveloped, their oxalate developers, and the first acid bath. In the near future, we will give directions for working up these very valuable wastes.

New Subscribers For the first time, in all its history, the PHOTO ERA has elected to use premiums as an inducement to secure new subscribers. We are anxious to carry our subscription list to 50,000, during the coming year, in order to introduce some improvements into the publication, which all our readers will appreciate. But the struggle for circulation is so sharp, among publishers, that we are offerred the alternative of practically giving the magazine away gratis for a year, in a clubbing offer, or of using premiums to attract new subscribers to our lists. We have chosen the latter, as the best plan and we invite attention to our offer on another page. Each premium in the list is guaranteed to be just as represented.

For the first premium we offer one year's subscription to PHOTO ERA free, if you will secure, two (2) NEW subscribers at the regular rate $1.50 per year. This offer will appeal to all present subscribers as it enables them to renew their own subscription free for one year.